

ductivity type and a gate structure is formed in the groove. Thus, Applicant's Claim 18 is directed towards a method for building a structure such as the one illustrated in Figure 9 of the application in which source regions S and body regions B are laterally surrounded by gate structure G. One of the advantages of this structure is that Applicant can increase his effective channel width by taking advantage of portion P of the gate structure (see attached Exhibit A). If Applicant interdigitated his gate and his source/body regions, portions P would not be available to enhance the effective channel width. Applicant points out that because the bottom portion of his groove is filled with gate material, Applicant can form a layer of oxide over his gate and easily extend his source/body contact metallization over the groove to contact the individual source/body islands. If the groove were not filled, it would be very difficult to extend the source/drain contact metallization over the groove. Iwai, Schutten and Furumura fail to teach or suggest this advantage. Therefore, Applicant's claimed invention is patentable over these references.

Although the Ueda reference discusses filling a groove with oxide, Ueda fails to teach or suggest source/body islands which are laterally surrounded by a gate structure. Therefore, Ueda fails to teach or suggest the method recited in Applicant's Claim 18 or its advantages.

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Pursuant to Rule 37 C.F.R. 1.56, Applicant wishes to bring to the Examiner's attention U.S. Patent 4, 344,081. This reference was cited in U.S. Patent Application, Serial No. 06/929,685 (a divisional of the present application), and Applicant wishes to have this reference made of record in the present application as well.

Applicant also wishes to bring to the Examiner's attention

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U.S. Patents No. 4,593,302 and No. 4,680,853 issued to Lidow et al. Lidow discusses a transistor including a plurality of hexagonal source/body islands surrounded by a gate structure, e.g., as discussed at column 4, line 29, to column 6, line 14, of the '853 patent and accompanying Figures 3 to 5. However, this structure does not include a transistor with a gate formed in a groove, nor does Lidow teach or suggest how one might contact source/body islands if the gate were formed in a groove.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C., 20231, January 18 1988.

January 18, 1988
Date of Signature

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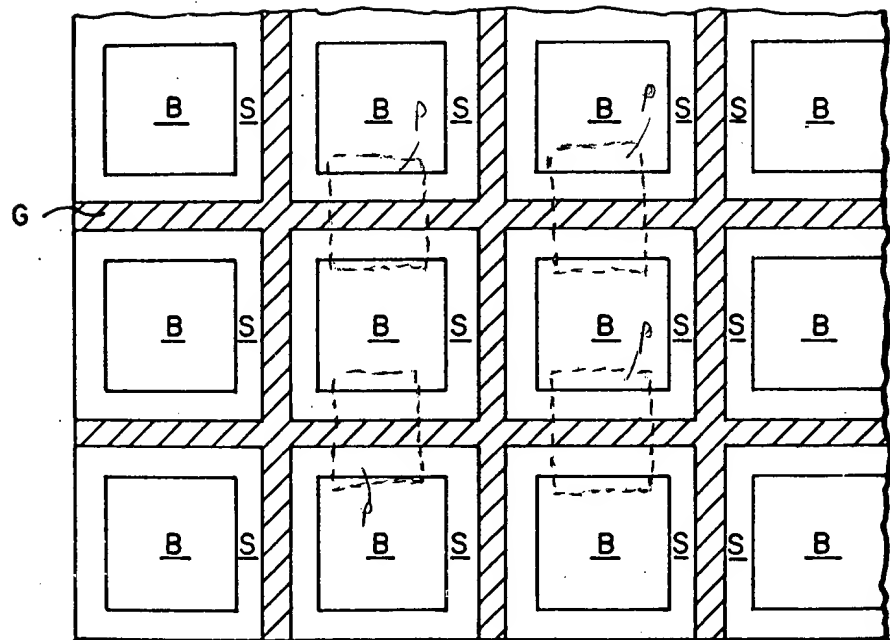


EXHIBIT A